MISSOURI SOIL JUDGING SCORECARD **FORM 19**

Contestant: _____ Contestant Number: _____ Site: 1 2 3 4 5 6
(Circle)

School: _____ School Number: _____

Total Front		Total Back	=	Grand Total
	+		=	

FIRST HORIZON (____ to ____ inches)

1. _____Color
2. _____All Mottles
3. _____Texture
4. _____Structure Type
5. _____Total Rock Fragments
6. _____Rock Fragments (3 to 10 inches)
7. _____Special Features
8. _____Horizon Name I
9. _____Horizon Name II

SECOND HORIZON (____ to ____ inches)

10. _____Color
11. _____All Mottles
12. _____Texture
13. _____Structure Type
14. _____Total Rock Fragments
15. _____Rock Fragments (3 to 10 inches)
16. _____Special Features
17. _____Horizon Name I
18. _____Horizon Name II

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COLOR

a = Dark brown, Very dark brown, Black
b = Light brown, Brown, Yellowish brown
c = Red, Reddish brown
d = Dark gray, Light gray, White

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ALL MOTTLES (Abundance)

a = Few (0 - 1.9%)
b = Common (2 - 19%)
c = Many (= or > 20%)

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TEXTURE

a = Sand, Loamy sand
b = Sandy loam
c = Loam, Silt loam
d = Sandy clay loam, Clay loam, Silty clay loam
e = Clay, Silty clay, Sandy clay, or N/A

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STRUCTURE TYPE

a = Granular
b = Platy
c = Blocky
d = Prismatic
e = Massive, Single grain

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TOTAL ROCK FRAGMENTS (2mm to 10 inches)

a = < 15% (no modifier)
b = 15 to 35% (gravelly, channery, cobbly, or flaggy)
c = 35 to 60% VERY (gravelly, channery, cobbly, or flaggy)
d = > 60% EXTREMELY (gravelly, channery, cobbly, or flaggy)

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ROCK FRAGMENTS (3 to 10 inches only)

a = < 15%
b = 15 - 35%
c = 35 - 60%
d = > 60%

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SPECIAL FEATURES

a = None
b = Fragipan
c = Abrupt textural change

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HORIZON NAME I

a = Ap
b = A
c = E
d = B
e = None of the above

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HORIZON NAME II

a = C
b = Cr
c = R
d = None of the above

THIRD HORIZON (____ to ____ inches)

19. _____Color
20. _____All Mottles
21. _____Texture
22. _____Structure Type
23. _____Total Rock Fragments
24. _____Rock Fragments (3 to 10 inches)
25. _____Special Features
26. _____Horizon Name I
27. _____Horizon Name II

FOURTH HORIZON (____ to ____ inches)

28. _____Color
29. _____All Mottles
30. _____Texture
31. _____Structure Type
32. _____Total Rock Fragments
33. _____Rock Fragments (3 to 10 inches)
34. _____Special Features
35. _____Horizon Name I
36. _____Horizon Name II

TOTAL FRONT

Directions: Use Interpretation Help Sheet; then darken in the correct responses (Example: (a) (b) (c))

PROPERTIES OF THE WHOLE SOIL

37. **Effective Rooting Depth**
- (a) Very deep (>60 inches)
- (b) Deep (40-60 inches)
- (c) Moderately deep (20-40 inches)
- (d) Shallow (10-20 inches)
- (e) Very shallow (<10 inches)

38. **Available Water Capacity (AWC)**
- (a) Very high (>12 inches)
- (b) High (9-12 inches)
- (c) Moderate (6-9 inches)
- (d) Low (3-6 inches)
- (e) Very low (<3 inches)

39. **Surface Soil Permeability**
- (a) Rapid to very rapid (>6.0 in./hr.)
- (b) Moderately rapid (2.0-6.0 in./hr.)
- (c) Moderate (0.6-2.0 in./hr.)
- (d) Moderately slow (0.2-0.6 in./hr.)
- (e) Slow to extremely slow (<0.2 in./hr.)

40. **Subsoil Permeability**
- (a) Rapid to very rapid (>6.0 in./hr.)
- (b) Moderately rapid (2.0-6.0 in./hr.)
- (c) Moderate (0.6-2.0 in./hr.)
- (d) Moderately slow (0.2-0.6 in./hr.)
- (e) Slow to extremely slow (<0.2 in./hr.)

41. **Internal Drainage**
- (a) Excessive/somewhat excessive
- (b) Well
- (c) Moderately well
- (d) Somewhat poorly drained
- (e) Poorly drained/very poorly drained

42. **Depth to High Water Table (WT)**
- (a) >60 inches
- (b) 42-60 inches
- (c) 24-42 inches
- (d) 12-24 inches
- (e) <12 inches

43. **Shrink-Swell Potential**
- (a) Low
- (b) Moderate
- (c) High

TOTAL BACK

SITE CHARACTERISTICS

44. **Landform**
- (a) Upland
- (b) Foot slopes or alluvial fans
- (c) Flood plain
- (d) Stream terrace
- (e) Sinkholes

45. **Slope I**
- (a) 0 - 1.99%
- (b) 2 - 4.99%
- (c) 5 - 8.99%
- (d) 9 - 14%
- (e) None of the above

46. **Slope II**
- (a) 14 - 24.99%
- (b) = or >25%
- (c) None of the above

47. **Aspect**
- (a) Northerly
- (b) Southerly
- (c) Easterly
- (d) Westerly
- (e) None of the above (<2% slope)

48. **Parent Material I**
- (a) Loess
- (b) Glacial till
- (c) Residuum or colluvium
- (d) Alluvium
- (e) None of the above

49. **Parent Material II**
- (a) Loess over glacial till
- (b) Loess over residuum or colluvium
- (c) Colluvial sediments over residuum
- (d) Loess over alluvium
- (e) None of the above

50. **Stoniness (area 100x100 ft. sq.)**
- (a) None (>100 feet apart)
- (b) Stony (30-100 feet apart)
- (c) Very stony (5-30 feet apart)
- (d) Extremely stony (2.5-5 feet apart)
- (e) Rubbly (<2.5 feet apart)

51. **Rockiness**
- (a) Not rocky (<10 sq. ft./area)
- (b) Rocky (10-200 sq. ft./area)
- (c) Very rocky (200-1000 sq. ft./area)
- (d) Rock outcrop complex (>1000 sq. ft./area)

MANAGEMENT INTERPRETATIONS

52. **Surface Drainage**
- (a) Not needed
- (b) Needed

Irrigation Suitability (a=Asset, b=Liability)

53. (a) (b) Surface soil texture
54. (a) (b) Slope
55. (a) (b) AWC
56. (a) (b) Depth to High Water Table
57. (a) (b) Permeability
58. (a) (b) Rock fragments (>3 in.)
59. (a) (b) Depth to bedrock

Hazards and Limitations for Cropping (a=Yes, b=No)

60. (a) (b) Slope or erosion
61. (a) (b) Available water capacity
62. (a) (b) Surface drainage
63. (a) (b) Internal drainage
64. (a) (b) Rock fragments
65. (a) (b) Stoniness
66. (a) (b) Rockiness

Pond Reservoir Area (a=Slight, b=Moderate, c=Severe)

67. (a) (b) (c) Permeability
68. (a) (b) (c) Depth to hard bedrock
69. (a) (b) (c) Depth to soft bedrock
70. (a) (b) (c) Slope

Limitations for Dwellings with Basements (a=Slight, b=Moderate, c=Severe)

71. (a) (b) (c) Depth to High Water Table
72. (a) (b) (c) Flooding
73. (a) (b) (c) Shrink-Swell potential
74. (a) (b) (c) Slope
75. (a) (b) (c) Rock fragments (>3 in.)
76. (a) (b) (c) Depth to bedrock

Limits for Septic Tank Absorption Fields (a=Slight, b=Moderate, c=Severe)

77. (a) (b) (c) Permeability
78. (a) (b) (c) Depth to High Water Table
79. (a) (b) (c) Depth to bedrock
80. (a) (b) (c) Slope
81. (a) (b) (c) Flooding
82. (a) (b) (c) Rock fragments (>3 in.)

Limitations for Sewage Lagoons (a=Slight, b=Moderate, c=Severe)

83. (a) (b) (c) Permeability
84. (a) (b) (c) Slope
85. (a) (b) (c) Flooding
86. (a) (b) (c) Depth to High Water Table
87. (a) (b) (c) Depth to bedrock
88. (a) (b) (c) Rock fragments (>3 in.)